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ABSTRACT

A study examined the effects on early literacy learning of two dimensions of learning contexts: formality (peer writing and pretend play) and social relationships (friends and acquaintances). Same gender dyads of kindergarten friends were observed in peer writing and pretend play settings across the school year. A total of 33 males and 23 females participated. Observational measures of literate language and emotion language were collected across a 9-month period, as were proximal and distal measures of reading and writing. Results indicated that (1) the emotional tenor of close relationships afford children opportunities to reflect upon cognitive and linguistic processes which constitute early literacy; (2) close relationships for girls, compared to boys, afforded opportunities to express literate language; (3) differences were observed when children were observed with friends, compared to acquaintances; (4) the formality of the interactional setting also influenced language between peers; and (5) talk about language and literacy was a reliable predictor of literacy. Findings support the importance of close relationships and emotion for early literacy development. (Contains 46 references and 4 tables of data.) (Author/RS)

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Oral Language and Literacy Learning in Context: The Role of Social Relationships

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READING RESEARCH REPORT NO. 57
Spring 1996

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The National Reading Research Center (NRRC) is funded by the Office of Educational Research and Improvement of the U.S. Department of Education to conduct research on reading and reading instruction. The NRRC is operated by a consortium of the University of Georgia and the University of Maryland College Park in collaboration with researchers at several institutions nationwide.

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Oral Language and Literacy Learning in Context: The Role of Social Relationships

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Abstract. *The intent of this study was to examine the effects on early literacy learning of two dimensions of learning contexts: formality (peer writing and pretend play) and social relationships (friends and acquaintances). We predicted that children would exhibit higher levels of competence in play, compared to peer writing contexts, and with friends, compared to acquaintances. We also hypothesized that the oral language observed in these supportive contexts would predict proximal and distal measures of literacy. Same gender dyads of kindergarten friends and acquaintances were observed in peer writing and pretend play settings across the school year. Observational measures of literate language and emotion language were collected across a 9-month period, as were proximal and distal measures of reading and writing. Results generally supported the hypotheses and are discussed in terms of the importance of close relationships and emotion for early literacy development.*

Currently, researchers in the area of early literacy (e.g., Dickinson & Moreton, 1991; Olson, 1977; Pellegrini & Galda, 1993; Snow, 1983) are taking a developmental stance in their studies of young children learning to read and write as they first enter school. This stance typically entails defining early literacy in terms of a specific oral language register as well as describing the contexts in which this register is learned. This variety of language has been labelled "literate language" because it shares many design features with the language used by teachers in their teaching of literacy lessons and of the language used in early reading texts (DeStefano, 1984; Heath, 1983; Olson, 1977; Scollon & Scollon, 1981). Furthermore, use of this register by preschoolers is predictive of subsequent standardized measures of school-based literacy (Dickinson & Moreton, 1991; Olson, 1977; Pellegrini & Galda, 1991, 1993; Scollon & Scollon, 1981; Torrance & Olson, 1984). Literate language is realized by "meta" talk, or talk about linguistic (e.g., "This doll can't read!") and mental (e.g., "I forgot to do that.") states. Literate language in the primary grades is typically used in the service of telling, summarizing, or dramatizing stories (Galda, Cullinan, & Strickland, 1993); thus, it is also characterized by a variety of conjunctions (e.g., "Once there was a little boy. He

bought a toy but it broke."). Researchers, however, are only beginning to describe the social contexts which support children's use of literate language.

The most commonly studied social context of early literacy is mother-child joint book reading (e.g., Bus & van IJzendoorn, 1995; Heath, 1983; Scarborough & Dobrich, 1994; Snow, 1983). We know much less about the social contexts where preschool and young primary school children spend most of their time, with peers (Pellegrini, Galda, Stahl, & Shockley, 1995), and the ways in which peer contexts relate to literate language and subsequent literacy. Peer influences on cognitive development are often rooted in Piaget's (1983) equilibration theory where the conceptual conflict characteristic of complementary relations (or relations between two actors of equal status) spurs cognitive development. Research in the area of preschool children's symbolic play and its relation to literacy is an example of this line of work (Pellegrini & Galda, 1991). Researchers have found that the social and linguistic interaction between participants in pretend play settings is predictive of reading and writing status in the early primary grades (Dickinson & Moreton, 1991; Pellegrini & Galda, 1993).

We suggest that this level of description of "peer interaction" is too global because all peers are not equally facilitative of learning. We propose that different peer relationships, and their corresponding emotional dimensions, may be differentially important in literacy development. "Relationship" here is defined as the interactional history between specific individuals that influences present and future interactions (Hinde, 1982). Thus, groups of peers may be characterized by different relationships, such as friends and acquaintances. To the extent that relationships are not typically considered in most theories of social influences on cognition leads us to believe that researchers consider relationships to be inconsequential; in most theories, a peer is a peer. Where differences between peers is addressed, difference in peers' cognitive expertise, such as conservers and nonconservers (Murray, 1972), not relationships, is usually discussed.

Different relationships between participants do have implications for the specific types of interactions that are relevant to literacy. Most generally, social interaction seems to relate to "executive cognitive functioning" (Hartup, in press; Wertsch, 1979), such as the ability to reflect upon language and cognitive processes. These processes are often observed in young children as they try to resolve conceptual conflicts with their playmates (Garvey & Kramer, 1989; Garvey & Shantz, 1992). Specific close relationships, like friendship and sibling relationships, may be especially important for the development of these "meta" processes.

Friendships are reciprocal and dyadic relationships (i.e., friends nominate each other as friends) and are characterized by strong emotional ties. This emotional component of peer contexts is crucial to consider in studies of social influences on literacy because it seems to support the exhibition of complex cognitive strategies (Dunn, 1988; Hartup, in press) which have been implicated in the development of literacy. Children who are friends, compared to children who are acquaintances, are

emotionally invested in each other (Hartup, in press) and the emotional tenor of friends' interactions supports the sorts of conceptual conflicts which afford opportunities to reflect upon cognitive and linguistic processes. This may be due to the fact that friends, compared to acquaintances, are less egotistic (Sullivan, 1953), are cooperative and complex players (Howes, 1993), are more task oriented, and deal with conflicts more constructively (Hartup, in press) when they are with each other. Specific to literacy learning, children with friends disagree and resolve disagreements. These patterns, consistent with Piaget's (1983) theory, facilitate metacognitive and metalinguistic awareness which, in turn, should foster literacy learning (Pellegrini et al., 1995).

The sparse extant data on this topic support this argument (Daiute, Hartup, Shool, & Zajac, 1993; Jones, 1995). In friendship (compared to acquaintance) conditions, we would expect children to engage in more cognitive conflicts and resolutions. Furthermore, the emotional tenor of friendship dyads should support higher levels of literate behavior, especially in demanding situations (Azmitia & Montgomery, 1993). For this reason we observed friend and acquaintance dyads as they interacted in a relatively demanding, formal setting, writing a narrative with a peer, and a relatively informal setting, engaging in pretend play with narrative-eliciting props.

In this study, a formal setting is defined as one in which children are presented with a writing task by an adult. An informal task, on the other hand, is defined by the children themselves, not by an adult; pretend play is an example of an informal task. While the literate language generated in each of these peer settings predicts subsequent school-based literacy (Pellegrini & Galda, 1991; Pellegrini et al., 1995), there are important differences between more formal literacy learning methods, such as peer writing, and less formal methods, such as peer pretend play. Specifically, school writing lessons are usually associated with formal schooling and, consequently, are governed by a priori rules to which children must accommodate. Also, writing in most classrooms is usually serious business, partially because of these rules.

Play with peers, on the other hand, is not usually subject to the same teacher-imposed rules. Peer play is rule governed, but the rules are presented and negotiated between peers (Garvey, 1990) and are typically characterized by conceptual conflict and resolution cycles (Garvey & Kramer, 1989; Garvey & Shantz, 1992). In the process of these conflict resolution cycles, children often talk about linguistic and mental states (Garvey, 1990); when children disagree, they talk about the content and rationales for their opinions (Garvey, 1990; Pellegrini, 1984). That children enjoy peer play motivates them to sustain this difficult social cognitive work (Garvey, 1990).

The idea that young children exhibit higher levels of competence in pretense than in more serious school lessons is consistent with Vygotsky's (1967) theory of play. The theory posits that children's play scaffolds their exhibition of competence because in pretense they are motivated to reach fantastic goals (i.e., goals obtainable only through pretense), while simultaneously confronting themselves with rules governing these sorts of behaviors in real life

(see Fein, 1979 for an excellent discussion of these issues). In contrast, during peer writing, because it may be less motivating than peer play, children may choose to not to expend much social cognitive effort to complete these tasks. Thus, formal literacy events, relative to peer pretense, may actually repress children's exhibition of competence while play may facilitate it (Vygotsky, 1967).

Children's gender is also relevant to the behavior children exhibit in pretend play and friendship settings. Girls are more skilled pretend players than boys (e.g., Fein, 1981; McLoyd, 1980) and, consequently, girls should exhibit higher levels of competence in the play context. Regarding friendship and gender, we know that children's friends are overwhelmingly of the same gender (Hartup, 1983). Furthermore, girls, more than boys, are more concerned with close relationships, such as friendship (Waldrop & Halverson, 1975). Thus, we expect girls to exhibit higher levels of competence in the friendship, compared to the acquaintance, condition.

While our knowledge of behaviors relevant to literacy learning in male and female friendship pairs is limited, we do have some general information which is helpful in generating hypotheses. For example, boys are more conflictual than girls (Maccoby, 1990), but male friends' conflicts also have fewer rationales (Hartup, French, Laursen, Johnston, & Ogawa, 1993); thus they may be less likely to be resolved. These differences are consistent with Maccoby's (1990) characterizations of interaction styles in gender-segregated groups: Girls are more enabling and emotional with each other while boys are more assertive.

We also expect the verbal interactional patterns elicited in friendship dyads to relate differentially to proximal and distal measures of literacy. To the extent that friendship dyads, compared to acquaintance dyads, support literacy learning and development, we expect friends in the peer writing context to generate more sophisticated forms of writing and rereadings of texts while with their friends. Furthermore, the oral language observed in the friendship context should relate to distal measures of literacy, such as performance on general measures of reading and writing.

In summary, this study addresses a number of issues in the literature on social influences on early literacy development. First and most importantly, we explicate more fully the dimensions of social context by comparing friend/acquaintance interactions that relate to early literacy. Current conceptions of "peer interaction" are much too global to further our understanding of social contexts supportive of literacy. Second, we determine the relative effects of formal (i.e., peer writing) and informal (i.e., peer play) instructional groupings on children's literate language. These two points provide complementary information on "social contextual" effects on literacy learning. Third, we assess the degree to which these contexts relate to proximal and distal measures of literacy. While many studies of the oral language bases of literacy assess relations with distal measures of literacy (standardized test scores), this study took both distal and more proximal measures (assessment of reading and writing during the interactions). This should provide more concise information on the social bases of early literacy.

Methods

Subjects

The children who participated in the study were sampled from all kindergarten children in one primary school. This public school served a culturally diverse population. Individual classroom teachers were paid a small stipend ($100) for their participation in the study. Based on returned parental consent forms, children in each of the four kindergarten classrooms were included in the sample. A total of 33 males and 23 females participated. The mean age at the start of the study (September) was 65 months. African-American children comprised 55% of the sample, European Americans 40%, and other 5%.

Procedures

Children started kindergarten (which is mandatory in this state) in mid-August and attended school for the full day (7:50 AM to 2:30 PM), Monday through Friday, through the first week in June. After one month, two graduate students started spending time in children's classrooms so that children would become familiar with them. Each of the two graduate students was assigned two classrooms in which to work. These graduate students were responsible for conducting all observational and initial sociometric/friendship sessions. Other research assistants were responsible for the second sociometric/friendship interviews and testing children; thus, observers were blind to children's status on the psychometric measures and testers were blind to children's behavioral status.

After approximately 2 weeks, researchers took individual students out of their classrooms and administered the initial sociometric and friendship nominations. In this procedure, researchers placed individual pictures of children's classmates in front of them and said: "I'm going to show you some pictures of your classmates. Please point to each and tell me the kid's name." When this was completed, the researcher asked children (in the sociometric procedure) to "Tell me the names of three children you like the most" and "Three children you don't like." The researcher wrote down names as they were given. Then the researcher asked the children: "Who are some kids in the class who are your friends?" Prompts, such as "Who else?, Are there others?", were used. This procedure, administered by a research assistant unfamiliar with children's earlier nominations, was repeated again in May of the school year. Based on the friendship nominations, friend/nonfriend dyads were constructed. Friends were defined, following Hartup (in press), as children with reciprocated friendship nominations; that is, children were friends when they nominated each other as friends. Acquaintances were nonfriends from the same classroom. All dyads were comprised of same-gender, same-race children.

Children were observed in either friendship or acquaintance dyads 12 times across the school year. During each of the three academic quarters, all children were also observed in a play setting (informal) and in a peer writing setting (formal). The separate play observations involved replica toys from currently

popular narrative films: *Aladdin*, *The Jungle Book*, and *The Lion King*. The formal setting involved children being read a book by an experimenter and then asked to write about the book. Books were all narratives related to the theme of birthdays: *How many days to my birthday* (G. Clark, 1992), *Birthday presents* (C. Rylant, 1987), and *Arthur's birthday* (M. Brown, 1989). Order of presentation of play (informal)/peer writing (formal) and friend/nonfriend contexts were counterbalanced, with one exception, across classrooms and three academic quarters. The one exception related to the initial presentation of the books in the writing setting. Because of new kindergartners' limited literacy skills, the simplest book was presented first (*How many days to my birthday*).

Children were observed at tables in a hall outside their classrooms. In all cases, researchers placed an audiorecorder on the table. Before each session began, the researcher announced the date, children's names, and the condition. From the audiorecordings, measures of children's oral language and duration (in seconds) of the episode were derived.

In the writing setting, researchers first read the assigned book to the group. After each book, researchers followed standardized instructions to encourage children to talk and write about the stories they had just heard. Children's written products from these sessions were subsequently scored in terms of level of writing performance; scoring is discussed below. At the end of each quarter, children were individually asked to re-read to the researcher the book they had heard in the earlier writing session.

In the play contexts, children were presented with the replica props and encouraged to play. In each setting, researchers were minimally intrusive; they sat off to the side of the play area. Additionally, over the course of the year, a number of language and literacy assessment instruments were administered.

Measures

Language production. Language production measures of children's oral language were derived from the audiotaped recordings of the play and literacy observational sessions. Oral language tapes were coded by one of the research assistants according to mutually exclusive categories. Reliability was determined by a separate coder, re-coding 5% of the recorded sessions; the kappas are listed after each measure. Individual measures of oral language have been used extensively in studies of early literacy and language (Pellegrini & Galda, 1991). All measures of oral language derived from audiotapes were expressed in terms of relative frequency (relative to the sum of all coded utterances for each observation).

Conjunctions were coded as additive (e.g., and), temporal (e.g., and then), causal (e.g., because), or adversative (e.g., but); kappa .78. *Linguistic, cognitive, and emotional verbs* were coded as regular and contrastive. Use of linguistic (e.g., Talk louder), cognitive (e.g., Let me think), and emotional (e.g., I'm happy now) terms indicates children's knowledge of those processes (Pellegrini et al., 1995). Use of contrastive linguistic (e.g., You can't say that), cognitive (e.g., It doesn't make sense), and emotional terms (e.g., He's not really sad) are

most indicative of reflection on the processes they encode (Shatz, Wellman, & Silber, 1983) and predictive of early literacy (Pellegrini & Galda, 1991). Kappas for these terms averaged .67.

Names of letters and literacy artifacts were also coded. Any mention of a letter name or object associated with literacy (e.g., book, pencil, paper) was coded; Kappa .83. *Rhymes and word play* were also coded. This category included instances of singing, reciting poems, or rhyming words; Kappa .79.

Lastly, oral language tapes were coded for *disagreements and make-ups*. Disagreements included any mention of disbelief, disagreement, efforts to substitute one thing for an other, postponements, and evasions. Make-ups were represented by compromise, expression of sorrow/apology, and/or accepting explanation/alternative; Kappa .67.

Literacy. Children's literacy (reading and writing) was measured on a number of instruments. Distal reading measures included Clay's (1981) *Concepts About Print*, which was administered twice per year: one form (*Stones*) in the Fall and another form (*Sand*) in the Spring. Standard scores on the aggregate of these measures were used. Also at these sessions, children took the letter recognition and word recognition subtests, as well as the word writing fluency measure. These measures have strong construct, content, and predictive validity properties (Clay, 1981; Pellegrini & Galda, 1991). All testing was done by a trained school psychologist. All of these aggregated measures are regarded as distal measures of literacy.

More proximally, children's reading was also assessed three times per year by their re-reading a children's book. Specifically, at the end of each of the three academic quarters, individual children were asked to re-read the book that they played about that quarter to the researchers. Children's re-reading were audiotaped and coded according to Pellegrini and Galda's (1991) reconceptualization of Sulzby's categorization of re-reading. Briefly, children re-read the book, and the various strategies they used in this process were coded on a 1,11 continuum. The categories follow.

1. Labelling pictures
2. Action governed descriptions of pictures
3. Disconnected dialogue where children use some pictures to tell the story
4. Stories told for audience where stories around pictures are cohesive
5. Created story where pictures are used to tell a different story
6. Story similar to written version but not verbatim
7. Verbatim-like attempts where children point to pictures and tell verbatim story
8. Print governed refusal where children say they cannot read
9. Aspectual attempts where children use one or more the following to re-read: letter/sound attempts; read known words; and try to recite text from memorized words
10. Strategy dependent attempts is where one of the above strategies (in 9) represents a majority of the strategies used
11. Independent reading

Children's use of individual strategies across the whole reading were considered. The aggregate of scores was the unit of analysis. The

Table 1. Correlations Among Social Emotional Variables

Variable	1	2	3	4
1. Emotional Terms		.40**	.43**	.20
2. Emotional Contrast			.39**	.34**
3. Disagree				.59**
4. Makeup				—

*$p < .05$. **$p < .01$.

kappa for the categorization of individual moves was .74. The highest score on the rereading was used in analyses. It correlated positively and significantly with Clay's Concepts About Print total score ($r = .27$, $p < .04$) and the Word Identification scores ($r = .28$, $p < .03$).

Writing was measured in two ways. First, at the distal level and as part of the administration of the Concepts About Print measure in the Fall and Spring of the year, children were also asked to write individual words. Following procedures outlined by Clay, children were told: "I want to see how many words you can write. Can you write your name?" If the child refused or said "No," s/he was asked to write any single-letter or two-letter words. If the child could write his/her name, s/he was told: "Good. Now let's think of all the words you know how to write and write them down." Standardized prompts, following Clay (1981), were used. Each word written in standardized form was counted as correct and the unit of analysis was the total score correct. This measure has high reliability and validity (Clay, 1981).

The second, more proximal, measure of writing performance was derived from the children's written products generated after being read to in the literacy conditions. Each written product was scored according to Pellegrini and Galda's adaptation of Sulzby's continuum of writing development. Each piece was scored 1,6, on the following criteria, for the highest level exhibited.

1. *Drawing*: Children drew pictures of the story, with no words or letters present
2. *Scribbling*: Children used curved lines, not words
3. *Letter-like units*: Children used graphic signs, like squares, triangles, and circles to represent words
4. *Well-learned units*: Children repeated the use of individual letters, e.g., AAA, ZZ
5. *Invented spelling*: Children used their own spelling for individual words
6. *Standard orthography*: Children used conventional spelling

Reliability on this 6-point scale was established by re-coding 5% of the texts, and the kappa was .84. This score correlated, $r = .62$, $p < .01$, with the Clay measure of writing fluency.

Table 2. Correlations Among Cognitive, Linguistic, and Literacy Oral Language Variables

Variable	1	2	3	4	5	6	7	8	9	10
Conjunctions										
1. Additive	—	.63**	.65**	.66**	.22	.50**	.05	.12	.21	.22
2. Temporal			.74**	.55**	.45**	.64**	.17	.30*	.51**	.21
3. Causal				.43**	.37**	.14	.01	.27*	.70**	.18
Cognitive										
4. Terms					41**	.44**	.18	.06	.18	.37**
5. Contrast						.51**	.23**	.40**	.43**	.03
Linguistic										
6. Terms							.36**	.42**	.72**	.13
7. Contrast								.19	.31**	.35**
Literacy										
8. Letter Name									.47*	.05
9. Artifact Name										.09
10. Rhymes										—

*$p < .05$. **$p < .01$.

Results

In Tables 1 and 2, we present, respectively, data from the observational sessions and children's scores on literacy measures. For the observational data, the dyad, not the individual child, was the unit of analysis. This was done for two reasons. First, we were interested in relationships, not individuals; thus, dyads are the appropriate unit of analysis. Second, individuals interacting in dyads are statistically interdependent and to use individual, not dyad scores, violates independence assumptions of parametric statistics as well as increases the chances of Type I error.

Variation in the Observational Data

In the first series of analyses, we examine the effects of gender (2: male/female), social context (2: friend/acquaintance), and formality context (2: play/peer writing) on children's oral language production. The first two factors are between subjects variables and the last factor was a within subjects variable. These analyses are generally concerned with children's use of literate language (conjunctions; cognitive, linguistic, literate, and letter terms; and rhymes), and emotional language (emotional terms and disagreements/make-ups). Again, these values are relative scores for

dyads of children; 1-tailed tests were used because of a priori hypotheses.

Conjunctions were analyzed first and for *additive* conjunctions, a significant Social Context x Gender interaction, $F(1,15) = 4.90$, $p < .02$, was observed such that girls generated more in the friend condition ($M = .025$) than in the acquaintance condition ($M = .02$) and boys generated more than girls in that latter condition ($M = .03$). For *temporal* conjunctions, no significant effects were observed. For *causal* conjunctions a significant effect for Social Context, $F(1,15) = 7.45$, $p < .005$, and a significant Social Context x Gender interaction, $F(1,15) = 5.87$, $p < .01$, were observed. Like the additive results, girls generated more causal conjunctions with friends ($M = .015$) than with acquaintances ($M = .01$). Furthermore, in the friend condition, they generated more causals than boys ($M = .01$).

For the *cognitive* terms, a significant effect for Gender, $F(1,15) = 8.20$, $p < .005$, was observed, with girls ($M = .03$) using more cognitive terms than boys ($M = .015$). For the *cognitive contrast* terms, a significant effect for Social Context was observed, $F(1,15) = 4.08$, $p < .03$, where more were observed between friends ($M = .01$) than acquaintances ($M = .001$).

For *linguistic* terms, significant main effects were observed for the Formal/play condition, $F(1,15) = 56.53$, $p < .0001$, and the Social Context, $F(1,15) = 14.76$, $p < .0001$. More linguistic terms were observed in peer writing ($M = .04$) than in play ($M = .015$), and more linguistic terms were observed in the friend dyads ($M = .035$) than in the acquaintance dyads ($M = .02$). Regarding *linguistic contrast* terms, a main effect was observed in the Formal/play condition, $F(1,15) = 11.35$, $p < .002$, with more being observed in the formal condition ($M = .01$) than in the play condition ($M = .005$).

Next, we analyzed the effects of Gender (2) x Social Context (2) and Gender x Formality Context (2) on *names of letters*, *names of literacy artifacts*, and *rhymes*. For each variable, respectively, a significant main effect for Formality Context was observed: $F(1,15) = 27.02$, $p < .0001$; $F(1,15) = 5.0$, $p < .04$; and $F(1,15) = 42.42$, $p < .0001$. In the respective cases of letter names ($M = 1.75$ and $M = .01$), literacy artifacts ($M = 2.75$ and $M = .01$), and rhymes ($M = .01$ and $M = .002$), more terms were observed in the formal settings than in the informal setting.

For *emotional* terms, no significant effects were observed. For *emotional contrast* terms, a significant effect for Gender, $F(1,15) = 6.81$, $p < .005$, was observed where girls ($M = .013$) used more than boys ($M = .01$).

Next, we considered *disagreements and make-ups* (conflict resolution cycles). Regarding disagreements, a significant Gender effect, $F(1,15) = 5.91$, $p < .01$, was observed (boys, $M = .032$ and girls, $M = .02$), as was a significant effect for the writing ($M = .017$)/play ($M = .035$) setting, $F(1,15) = 12.94$, $p < .001$.

Change in Friendship Nominations

Next, we examined children's change in friendship choices from Fall to Spring of the school year. Specifically, we tested the hypothesis that children paired with nonfriends

Table 3. Correlations Among Literacy Measures

Measure	1	2	3	4	5
Word Write	—	.50**	.74**	.31*	.62**
Concepts About Print			.52**	.26*	.38**
Word Identification				.31*	.28*
Highest Read					.27*
Highest Write					—

*$p < .05$. **$p < .01$.

at the beginning of the year would nominate those same children as friends at the end of the year. This hypothesis was tested, using the large sample approximation of Fisher's sign test (Hollander & Wolfe, 1973), by examining the probability of a nonfriend partner in the Fall being chosen as a friend in the Spring. The hypothesis was supported (nonfriends became friends in 72% of the cases, $B = 3.35$, $p < .005$).

Relations Between Emotion and Cognitive and Linguistic Language

First, the observational measures of emotion language (i.e., emotion language and disagree/make-up) were positively intercorrelated. These correlation coefficients are displayed in Table 1. In the next series of analyses, we determined the extent to which children's use of emotion language (i.e., the aggregate of emotional terms, emotional contrast terms, and disagree/make-ups) predicted cognitive language (i.e., the aggregate of cognitive terms and cognitive contrast terms) and linguistic language (i.e., the aggregate of linguistic terms and linguistic contrast terms). Aggregation was justified in light of the significant intercorrelations among the measures. Furthermore, aggregation is helpful in maximizing construct validity for developmental variables, such as early literacy (Rushton, Brainerd, & Pressley, 1983). We were interested in the extent to which emotion language was mediated by the interaction between Gender and Social Context (friend/nonfriend condition) in predicting cognitive and linguistic language. Using hierarchic regression analyses, emotion language predicted a significant portion of the variance in both cognitive ($R2 = .23$, $p < .0001$) and linguistic language ($R2 = .46$, $p < .0001$); the Gender x friend/nonfriend condition did not account for significant variance when entered into the equation either before or after emotion language.

Relations Between Language and Literacy Variables

The correlations presented in Tables 2 and 3 indicate that the oral language measures are significantly intercorrelated as are the literacy measures; thus, the language measures are labelled "literate language" and the literacy measures are labelled "literacy."

Table 4. Correlation Coefficients Between Oral Language and Literacy

	Cognitive		Linguistic		Literate Terms		
	Term	Contrast	Term	Contrast	Name	Artifact	Rhyme
Proximal							
Read	.06	.27*	.22*	.05	.31**	.36*	.20
Write	.10	.23*	.10	.10	.30**	.08	.01
Distal							
Write	.09	.07	.30**	.29**	.10	.32**	.13
C Print	.02	.10	.11	.31**	.05	.10	.01
Word ID	.19	.01	.28*	.21	.11	.23*	.11

* $p < .05$. ** $p < .01$.

Table 4 displays the intercorrelations between oral language and literacy measures. In examining the individual correlations between oral language variables and measures of literacy, rather clear patterns emerge. Specifically, oral language which encoded linguistic processes and terms associated with literacy events were reliably related to literacy. Terms encoding more general cognitive processes were less likely to be related to literacy.

Predicting Literacy

In the next series of analyses, hierarchic regression techniques were used to predict an aggregate literacy score (the aggregate of the Concepts About Print, Word Identification, and Word Writing scores). Aggregation, again, is justified in light of the significant intercorrelation among the measures. Predictor measures included the following oral language: cognitive language (aggregate of cognitive terms and cognitive contrast terms), linguistic language (aggregate of linguistic terms and linguistic contrast terms), and literate terms (the aggregate of names of letters and artifacts, as well as rhymes). Gender x friend/nonfriend condition was used as an interaction term. The model accounted for 9% ($R2 = .09, p < .03$) of the variance in literacy, and linguistic language was the only significant predictor. Even when cognitive language was entered before linguistic language, cognitive language did not account for significant variance (contributed less than 1% of the variance).

In the last regression model, we entered emotion language first, and then allowed cognitive and linguistic language. Neither emotional nor cognitive terms contributed significantly to literacy.

Discussion

Early literacy researchers are currently interested in the social contexts of learning. In this paper, we have extended this line of in-

quiry by explicating more clearly different dimensions of social contexts and the ways in which they relate to literacy learning. Most basically, we have demonstrated the importance of further differentiating aspects of the "peer context." As we have stressed, not all peers are equally facilitative of literacy learning. Methodologically, our work extends the important observations of Kramer and colleagues (Kramer, Bukowski, & Garvey, 1989) who found that individual children's language varied in different peer dyads. They suggested that each dyad presents individuals with a unique context in which to function. While we agree with Kramer and colleagues (1989) that the dyad is an interactive unit, we suggest that the relationships between individuals within dyads is implicated in the interaction processes.

We argue that the differences between peers in dyads may be related to the emotional tenor of their relationships. Specific peer relationships, like friendship, support literate language to the extent that friends, compared to acquaintances, are emotionally committed to each other. This emotional tenor is realized in children's use of emotional terms and conflicts/make-ups with friends. Expression of emotion is related to children's use of emotional terms and literate language. Literate language, in turn, predicted literacy status, as measured by a battery of measures developed by Marie Clay. In short, close relationships, like friendship, support synchronous and cognitively complex interactions. The emotional tenor of these relationships afford children opportunities to reflect upon cognitive and linguistic processes which constitute early literacy (Dunn, 1988; Hartup, in press).

Furthermore, our predictions for Gender x Social Context interactions were, generally, supported. Close relationships for girls, compared to boys, afforded opportunities to express literate language. This finding is consistent with extant literature documenting girls' concern with close relationships (Maccoby, 1990; Waldrop & Halverson, 1975). Also consistent with this literature was the finding that boys were more conflictual than girls.

These results extend our current understanding of social context and learning. At the most basic level, researchers should attended to the nature of relationships between peers, and indeed between children and adults (e.g., Bus & van IJzendoorn, 1988). Relationships between participants in dyads could be partially responsible for the observed instability of child language with different peers (Kramer et al., 1989). We observed differences when children were observed with friends, compared to acquaintances.

Further complicating this picture of "social context" was the fact that children who started off as acquaintances, but not friends, became friends by the end of the school year. Young children who are not initially friends seem to become friends when they share the same environment. Thus, friendship, for young children at least, is related to propinquity (Hartup, 1983). For older children, friendship is based on other factors, such shared interests and self-disclosure (Hartup, 1983).

The formality of the interactional setting also influenced language between peers. Formality was defined in terms of a contrast between typical "school" tasks (in the form of peer writing assignments made by an adult)

and peer pretend play. Formality of task effects were observed only for linguistic terms. Children generated more of these terms when they interacted in the formal literacy setting than in the informal pretend play setting. This should not be surprising to the extent that the formal setting was a literacy setting and children verbally encoded aspects of that environment. That these were the same terms that also predicted literacy supports Olson's (1977) contention that school-based literacy is something that must be taught; it is not usually learned incidentally. Our data suggest that teaching involves providing children with society's artifacts for school literacy and having them use them with their peers.

This is not to say, however, that pretend play with peers does not support the use of literate language. Both theory (Piaget, 1983; Vygotsky, 1967) and the empirical record (Pellegrini, 1984) suggests that the role of pretend play in early literacy is important during the preschool and early primary grade periods. It may be the case, following practice theories of play (Fein, 1979; Piaget, 1983), that pretend play with peers helps children consolidate the literate language learned in other contexts. This seems to be the case for preschoolers who learn literate language in joint reading events with a parent and then use these forms with peers in pretense (Pellegrini & Galda, 1991).

Lastly, we discuss the ways in which observed language variables (i.e., cognitive, linguistic, and emotion language) predicted children's literacy status. These results are rather clear-cut and consistent with theory. Consistent with theory (e.g., Olson, 1977), talk about language and literacy was a reliable predictor of literacy. Talk about other mental states do not add significantly to that prediction. This finding replicates earlier research implicating talk about language and literacy events and rhyming in formal literacy attainment (Bradley & Bryant, 1983; Pellegrini & Galda, 1991; Torrance & Olson, 1984). Children's talk about language and rhyming is an indicator of their general metalinguistic awareness, as well as their phonemic awareness (Pellegrini et al., 1995). Children's phonemic awareness is a robust predictor of early reading status (Adams, 1990).

That children's use of emotion language was not directly implicated in predicting literacy also merits discussion. It seems that emotion language was indirectly implicated to the extent that it related significantly to children's use of literate language, which in turn, related directly to literacy. Emotion, in the form of expression of emotions and conflict resolution cycles, provides the emotional tenor that supports children's reflection upon language and literacy. This explanation is consistent with Piaget's (1983) equilibration theory as well as Dunn's (1988) more recent observations of children interacting in another close relationship, with siblings.

In conclusion, this paper represents an effort to explicate "social contexts" and its effect on literacy learning. We have shown that distinctions such as "peer context" are much too global. Different sorts of peer relations and different sorts of instructional settings affect children's interactions and subsequent learning. Future research should look toward making clearer distinctions among peers. For example,

we might expect "best friend" relationships to be more supportive than other more general friends. The observation of Kramer and colleagues (1989) that children's language varies according to dyadic context is an important one. Not only do we need to sample individuals in different dyadic contexts, as suggested by Kramer and colleagues (1989), but we need to understand the nature of relationships of the peers constituting those dyads. Hinde's (1980) relationships model and Lerner's (1984) developmental contextual model provide important guides for this sort of research. In both cases, individuals, and their unique characteristics, are considered in different relationships. That relationships are affected by individual differences is important for future research to consider. The sibling literature can provide important guidance in this area. For example, siblings' temperaments affect their relationships with each other, as well as other interaction patterns (e.g., Brody, Stoneman, & McCoy, 1994).

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